Claims:

1.   A circuit switched communications nodal architecture capable of providing a plurality of network services to a plurality of time division multiplexed channels, said communications architecture comprising:

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a plurality of conversion means for converting a plurality of said time division multiplex channels to a plurality of packet stream channels;

a plurality of interface means for interfacing between said plurality of time
10   division multiplixed channels, and said plurality of conversion means;

a plurality of switching means each capable of switching said packet stream channels over a plurality of through connections through said switching means; and

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a plurality of peripheral devices, each capable of providing network service signals; wherein

each said peripheral device communicates with at least one said through
20   connected channel by means of at least one further connecting channel connecting said through connected channel and said peripheral device.

2.   The architecture as claimed in claim 1, wherein a said through connected channel extends directly through said switching means without being
25   routed through a said peripheral device.

3.   The architecture as claimed in claim 1, wherein a said connecting channel comprises at least one packet stream passing between a said through channel and a said peripheral device.

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4.   The architecture as claimed in claim 1, wherein a said connecting channel carries data duplicated from said through connected channel, said duplicate data being transmitted to a said peripheral device.

35   5.   The architecture as claimed in claim 1, wherein traffic data carried on a said through channel is replicated and broadcast to a plurality of said peripheral devices.

6.   The architecture as claimed in claim 1, wherein a time division multiplexed circuit comprising first and second channels is converted by said conversion means into first and second packet stream channels, and each of said first and second packet stream channels is replicated to produce first and second replicated packet stream channels which are communicated to a said peripheral device.

7.   The architecture as claimed in claim 1, wherein a said peripheral device comprises a network announcer device.

8.   The architecture as claimed in claim 1, wherein a said peripheral device comprises a universal tone receiver device.

9.   The architecture as claimed in claim 1, wherein a said peripheral device comprises a universal tone generator device.

10.   The architecture as claimed in claim 1, wherein a said peripheral device comprises an intelligent peripheral device.

11.   A method of providing network services to a communications circuit between a source device and a destination device, said circuit having a time division multiplexed channel portion, said method comprising the steps of:

converting said time division multiplexed channel portion of said circuit to at least one packet stream channel;

passing said packet stream channel through at least one switch fabric; and

providing a connecting channel between said through packet stream channel and a network service provider device, for communicating data between said packet stream channel and said network service provider device.

12.   The method as claimed in claim 11, comprising the step of duplicating a stream of packets carried on said through packet stream channel; and

supplying said duplicated packets to said network provider device via said connecting channel.

13.   The method as claimed in claim 11, further comprising the steps of;

generating service data at said service provider device;

5   incorporating said service data into a plurality of packets;

incorporating said packetized service data into a channel of said circuit.

14.   The method as claimed in claim 11, comprising the steps of;

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generating service data;

incorporating said service data into a plurality of packets;

15   sending said packetized service data over said connecting channel connecting an end to end channel of said circuit between a source device and said destination device with a said network service provider device.

15.   The method as claimed in claim 11, comprising the steps of;

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replicating a set of data packets comprising said through channel; and

supplying said stream of replicated data packets to a said network service provider device.

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16.   A method of providing services to a plurality of communications circuits carrying traffic data, each said circuit comprising a time division multiplexed portion and a packetised portion, said method comprising the steps of;

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converting said traffic data from a time division multiplexed mode to a packetized mode;

inputting a stream of packets containing said traffic data to a switching
35   element;

transporting said packet stream across said switching element over a direct channel between an input and an output of said switching element;

generating a service data packet stream containing service data providing a network service;

inputting said service data packet stream to said switch element; and

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incorporating said service data packets into said packet stream containing service data.